

612.41094X00

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: LEBAS et al

Serial No.:

Filed: January 29, 2002

For: Process And Device Intended For Regeneration of Used Absorbents From Thermal Generators Fumes Treatment

Group:

Examiner:

**PRELIMINARY AMENDMENT**

Assistant Commissioner  
for Patents  
Washington, D.C. 20231

January 29, 2002

Sir:

Prior to examination on the merits of this application and prior to calculation of the filing fee, please amend the above-identified application as follows:

**IN THE CLAIMS:**

Please amend the claims to read as follows:

3. (Amended) A process as claimed in claim 1, characterized in that said regeneration gas comprises hydrogen sulfide and/or a hydrocarbon.

4. (Amended) A process as claimed in claim 1, characterized in that the gases from the regeneration-filtration stage are cooled.

6. (Amended) A process as claimed in claim 1, characterized in that the regenerated absorbent from the regeneration-filtration stage is mixed with a carrier gas, then sent to a storage unit.

7. (Amended) A process as claimed in claim 1, characterized in that the regenerated absorbent is mixed with a carrier gas, then sent to a desulfurization zone.

8. (Amended) A process as claimed in claim 1, characterized in that regeneration is carried out in the presence of a catalyst.

10. (Amended) A process as claimed in claim 1, characterized in that the used absorbent is fractionated, prior to being mixed with the regeneration gas, into at least two fractions, some of said fractions being rich in catalyst, the others being poor in catalyst.

13. (Amended) A process as claimed in claim 1, characterized in that the used absorbent is temporarily stored prior to being mixed with the regeneration gas.

16. (Amended) A regeneration device as claimed in claim 14, characterized in that it also comprises a means (18) for cooling the gases coming from regeneration means (12), whose inlet is connected to the gas outlet.

18. (Amended) A device as claimed in claim 14, characterized in that it also comprises a filtering means (1) intended to separate the used absorbent from the effluents prior to entering regeneration-filtration means (12), said means (1) being arranged upstream from the regeneration means in relation to the direction of flow of the absorbent.

19. (Amended) A device as claimed in claim 14, characterized in that it also comprises a means (9) intended for storage of the used absorbent, said means being arranged upstream from the used absorbent inlet of regeneration means (12).

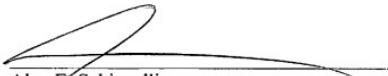
REMARKS

The foregoing amendments are respectfully requested prior to examination on the merits of this application. A marked up copy of the amended claims is attached.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 612.41094X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP



Alan E. Schiavelli  
Registration No. 32,087

AES/jla  
(703) 312-6600

REWRITTEN MARKED UP COPY

3. (Amended) A process as claimed in any one of claims 1 or 2- claim 1,

characterized in that said regeneration gas comprises hydrogen sulfide and/or a hydrocarbon.

4. (Amended) A process as claimed in any one of the previous claims claim 1, characterized in that the gases from the regeneration-filtration stage are cooled.

6. (Amended) A process as claimed in any one of the previous claims claim 1, characterized in that the regenerated absorbent from the regeneration-filtration stage is mixed with a carrier gas, then sent to a storage unit.

7. (Amended) A process as claimed in any one of the previous claims claim 1, characterized in that the regenerated absorbent is mixed with a carrier gas, then sent to a desulfurization zone.

8. (Amended) A process as claimed in any one of the previous claims claim 1, characterized in that regeneration is carried out in the presence of a catalyst.

10. (Amended) A process as claimed in any one of the previous claims claim 1, characterized in that the used absorbent is fractionated, prior to being mixed with the regeneration gas, into at least two fractions, some of said fractions being rich in catalyst, the others being poor in catalyst.

13. (Amended) A process as claimed in any one of the previous claims claim 1, characterized in that the used absorbent is temporarily stored prior to being mixed with the regeneration gas.

16. (Amended) A regeneration device as claimed in any one of claims 14 or 15 claim 14, characterized in that it also comprises a means (18) for cooling the gases coming

from regeneration means (12), whose inlet is connected to the gas outlet.

18. (Amended) A device as claimed in ~~any one of claims 14 to 17~~ claim 14, characterized in that it also comprises a filtering means (1) intended to separate the used absorbent from the effluents prior to entering regeneration-filtration means (12), said means (1) being arranged upstream from the regeneration means in relation to the direction of flow of the absorbent.

19. (Amended) A device as claimed in ~~any one of claims 14 to 18~~ claim 14, characterized in that it also comprises a means (9) intended for storage of the used absorbent, said means being arranged upstream from the used absorbent inlet of regeneration means (12).



PATENT

INSTITUT FRANÇAIS DU PETROLE

**PROCESS AND DEVICE INTENDED FOR REGENERATION OF USED  
ABSORBENTS FROM THERMAL GENERATOR FUMES TREATMENT**

Inventors : Etienne LEBAS, Gérard MARTIN and Christian STREICHER

**ABSTRACT**

Process and device intended for regeneration of a used absorbent from a desulfurization zone or of a gas containing sulfur oxides, comprising regeneration simultaneously with filtering of said absorbent, in a reducing atmosphere, wherein partial combustion of a regeneration gas is also carried out upstream from regeneration, the products of said partial combustion being mixed with the used absorbent prior to the regeneration-filtration stage.